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ABNORMAL NESTS OF THE SWALLOW (*HIRUNDO RUSTICA*).

By S. G. Cummings.

(Plate II.)

Peculiar sites for Swallows' nests are occasionally met with, and have received due notice from time to time; but instances of abnormal nests are, I think, of so much rarer occurrence—at any rate, in this country—that they are perhaps worth recording in this Journal. I refer to nests built without support of any kind under them, somewhat after the fashion of the House-Martin, but with even less attachment. Attempts at nest-building of this description by the Swallow are seen now and again, but only to be abandoned as soon as made.

In a loft at Backford Vicarage, Chester, three cases of unsupported nests occurred last summer. One nest, which contained half-grown young when I saw it on June 26th, has since fallen, but two, apparently built after this date, and which I examined recently, are still *in situ*, and within a few feet of one another. One is planted against the comparatively smooth surface of a whitewashed brick wall at one end of the loft, and is entirely without visible support of ledge, projection, peg, or nail; the top edge of the nest is attached to a rafter for about an inch at one side only (Plate II., fig. 1). This nest had contained young, and has evidently withstood the test well, still firmly adhering to the wall.

The other nest (likewise without support or prop from below) is built against the vertical surface of the ridge-piece and a rafter, in the angle formed by these two timbers at the apex of the roof (Plate II., fig. 2). This one had no signs of having contained young, but there was evidence that eggs had been laid; a part of this structure had given way, but I was able to replace it for the purpose of photography.

The nest with young, found in June, was in a corresponding position to this last.

According to Seebohm (vol. ii. pp. 174, 175), this form of construction is not uncommon on the Continent, but as to this I have no personal knowledge.

It is probable that those birds which have inherited this habit of nest-building would not, as a rule, resort to a ledge or projection even when such were at hand, *e. g.* in this loft the purlins and other horizontal timbers offered suitable and normal sites for the nests, though at a lower level; yet they were not taken advantage of.

There can be little doubt that these nests were the work of one and the same pair, but next summer, if the same birds return, as is most likely, I hope further observations may clear up this and other points.

In the 'Field,' Dec. 10th, 1904, Mr. J. E. Harting, in correcting an anonymous observer's statement with regard to the nesting of the Sand-Martin, writes as follows:—". . . the Swallow's nest having always some support under it, whether in a barn, shed, summer-house, grotto, or sea-cave. A nest of the Common Swallow built against the face of a chalk cliff (unless on a ledge) would be as remarkable as a cup-shaped nest built by a Sand-Martin against the chalk." It may be presumptuous on my part to differ from so high an authority, but there seems to be no more reason why (apart from the question of site, for a Swallow's nest on a sea-cliff is outside my experience) a Swallow should not build—exceptionally, of course—against a chalk or rock cliff without support under, than against a brick wall or on the perpendicular sides of roof-timbers, such as in the cases above mentioned.

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I have once only seen a Swallow's nest in a cave, and that was inland. The House-Martin will occasionally build *in* a cave; in one locality in Anglesea several pairs nested in the roofs of sea-caves a few years ago. The nests were quite invisible unless one was standing almost directly under them at sea-level.

The somewhat indifferent photographs here reproduced were taken in winter under difficulties, but they nevertheless give some idea of the position and formation of the nests. The top of the nest on the wall (fig. 1) just shows at the left-hand corner of fig. 2.

MONTHLY NOTES FOR 1902, TAKEN IN THE SOUTH OF TASMANIA.

By James R. McClymont, M.A., M.A.O.U.

January.

1st.—Near seventh milestone, Hobart to Kingston Road. Goldfinches are now full-fledged. Three young birds taken from a nest and placed in a cage out of doors have been fed by the parents through the netting of the cage. The She-oak (*Casuarina quadrivalvis*) is a favourite tree for Goldfinches; they scrutinize the cones as if searching for food. Perhaps they eat certain slender filaments which grow on them.

February.

1st.—A Fan-tailed Flycatcher (*Rhipidura diemenensis*) is very bold, and enters the verandah in pursuit of insects. Some at least of the jerky movements of this Flycatcher when perched must, I think, be made in order to widen the area of visibility, and also to facilitate a sudden dart upon an insect when it is seen; but the tumbling movements in the air seem to proceed from the necessity of following the elusive movements of the insect prey.

March.

(No date).—A Fan-tailed Cuckoo (*Cacomantis flabelliformis*) was observed near the Alum Cliffs about the beginning of March. It was picking up food from the ground, and had its post of observation in a tree, to which it invariably returned after picking up its food.

April.

1st.—About twenty Swallows are seen flying northwards.

2nd.—A Spotted Owl (*Ninox maculata*) is shot, and kindly presented to me. The interscapular region is sparsely spotted with dull white; the tarsi covered with buff feathers; the toes flesh-coloured, and their surface rough and granular. The beak is lead-coloured, and darker at the tip than at the base; iris yellow. Length, 12·25 in.

MAY.

16th.—(Four miles from Hobart.) Forest-inhabiting birds are less common here than near the seventh milestone. Fan-tailed Flycatchers, Thickheads, and Ground Thrushes (*Geocichla macrorhyncha*) are not to be seen. Crescent Honey-eaters, on the other hand, and Black-capped Honey-eaters and Spotted Diamond Birds, are more plentiful than I found them to be further from Hobart.

JUNE.

27th.—Two Small-billed Cuckoo-Shrikes (*Graucalus parvirostris*) passed by between the road and the river. I have seen them but rarely in the vicinity of Hobart in the winter months, and those that do appear are silent. One was seen on July 29th, 1900, in a garden in the city. The earliest date on which I have heard their note is Sept. 18th (1892), on the south-eastern peninsula of Tasmania. When this Cuckoo-Shrike settles in a tree or elsewhere it raises, with a jerky motion, one wing or both wings alternately. It is the movement which, when made by a human being, we call "shrugging the shoulders." With this bird it may be an ancestral mode of salutation which has lost its primitive meaning.

JULY.

21st.—A Yellow-throated Honey-eater (*Ptilotis flavigularis*) commences to utter its call, which resembles the clatter of a toy rattle followed by a melodious cadence.

AUGUST.

7th.—A young male Blue Wren (*Malurus gouldi*) is seen in the garden. Blue and blue-black body-feathers are visible amongst the brown.

8th.—Yellow-rumped Tits (*Acanthiza chrysorrhoa*) are separating from the flocks, and beginning to build.

9th.—A male Blue Wren is seen in complete adult plumage.

12th.—*Acacia dealbata* in flower.

15th.—A pair of Yellow-rumped Tits are building in a Pittosporum about three feet from the ground, and are flying to and fro for the greater part of the day with dried-up culms and sheaths of grasses, and stalks of other plants. Sometimes only two or three minutes elapse between their disappearance in search of material and their return to the nesting-site. About the same time is spent in adding the material to the nest.

17th.—*Eucalyptus globulus* in flower.

18th.—The Tits begin to line their nest with feathers. Swift Lorikeets appear.

25th.—Small brown Lizards (*? Hinulia* sp.) appear. One of these seizes and carries off a grape-skin which is dropped over the verandah-railing.

30th.—Wattle-birds (*Acanthochæra inauris*) are heard. These birds, when seen in outline against the sky, present a singular appearance, owing to the crouching attitude which they assume, their long tails, and relatively small bodies. Pallid Cuckoos appear.

SEPTEMBER.

2nd.—*Acacia melanoxylon* in flower. A male Flame-breasted Robin (*Petrœca phœnicea*) is seen; the first I have observed since last autumn.

8th.—A nest of the Brown Scrub Wren (*Sericornis humilis*) is received. It was found under a gorse-bush. Shreds of moss (a *Campylopus*) cling to the under side of it. It consists of the stems of grasses and other plants, and is thickly lined with feathers, amongst which those of the Grey-tailed Thickhead and the Ground Thrush can be discerned. A few feathers are also interwoven with the outer layers of the building materials, probably in order to obtain additional warmth, for snow is lying on the foothills of Mount Wellington. One egg which I have received is purplish brown; the large end is covered with a round spot of a darker tint. The long diameter measures, in inches, 0·87, and the short diameter 0·65.

14th.—Welcome Swallows are at Kingston (Brown's River).

18th.—Showers of snow fall, and the temperature is unusually low—36° F. at 3 p.m.

19th.—A Magpie (*Gymnorhina hyperleuca*) is collecting wool for a nest-lining.

20th.—An immature male Grey-tailed Thickhead (*Pachycephala glaucura*), in the flesh, is received. There is a wash of yellow on its breast, and a tinge of olive on the marginal wingcoverts; in most other respects it resembles an adult female. Total length, 7 in.; tail, 3·5 in.; tarsus, 1 in. A female Grey-tailed Thickhead is dark grey, slightly tinged with olive on the upper surface, excepting the tail, which has no olive tinge; the under surface is light grey, passing into dull white on the under tail-coverts. The quill-feathers are brownish above, especially on the outer edges. Length, 7·2 in.

28th.—A White-bearded Honey-eater (*Meliornis novæ-hollandiæ*) occasionally flies into the garden, but is very shy. Like the Magpie, it is collecting wool for a nest, which it is building in a patch of briars by the roadside. Swallows are now plentiful.

OCTOBER.

4th.—The Tits have deserted their nest. A Yellow-rumped Tit's egg from another locality is white, and the long diameter measures, in inches, 0·67, and the short diameter 0·48.

8th.—A Spotted Diamond Bird (*Pardalotus punctatus*) in the flesh is received. A wavy black line crosses the rump, and a few of the upper tail-coverts have red tips; the throat is light orange-yellow.

16th.—A Podargus (*Podargus strigoides*) is received. The young man from whom it was obtained informs me that he took an egg from it. It is a light-coloured specimen, and there is no tawny or chestnut in the plumage. The upper surface is mottled grey, the under surface is a medium shade of ashy grey. (The skin was subsequently presented to the Tasmanian Museum.) A Gannet (*Sula serrator*) appears on the Derwent.

21st.—A Spotted Diamond Bird is observed procuring nest material. Whilst fluttering on the wing it tries to detach shreds of bark from a stake.

26th.—Three young Magpies have been hatched. A Sleeping Lizard (*Cyclodus nigroluteus*) is seen abroad.

NOVEMBER.

22nd.—Two Goldfinches have a nest in a young pine a few feet from the verandah of dwelling-house. When feeding the nestlings they thrust their bills well into the mouth.

24th.—Two young Magpies in the open with the parents pick up their food, and are also fed by the old birds. One bird has disappeared.

25th.—The morning carol of the Magpies is heard about one hour before sunrise. I have noted a few of the hours at which I have heard it. On Sept. 1st the sun rose (approximately) at 6h. 38m., and the carolling was heard at 5h. 30m.; on the 30th the sun rose at 5h. 46m., and the notes were heard at 4h. 55m.; on Oct. 20th the sun rose at 5h. 13m., and the Magpies sang at 3h. 55m.; to-day the sun rose at 4h. 31m., and the birds commenced to carol at 3h. 30m. About this time Swift Lorikeets disappear.

DECEMBER.

1st.—The young Goldfinches have flown from the nest. *Acacia decurrens* in flower.

20th.—*Bursaria spinosa* in flower.

26th.—Yellow-rumped Tits are again to be seen in flocks.

31st.—About twenty Gannets seen at one time. They invariably retire from the river at the same hour—between six and seven p.m.—evidently to seek a secluded roosting-place.

Sandy Bay, Tasmania.

BIRDS OBSERVED AT GRINDELWALD IN JANUARY.

By the Rev. A. Ellison, M.A., M.B.O.U.

Ornithologists who are familiar with any part of Switzerland in the summer, and have observed the abundance of bird-life at that season, will probably find it interesting to compare the state of things which exists in the same regions at mid-winter.

I have therefore thought it worth while recording the few observations which I made during a very short visit to Grindelwald in January last. As I was only there for ten days altogether, there were no doubt some species of birds which escaped my notice, but those which were observed were perhaps specially interesting as showing what species are capable of passing the winter in such a region, where the ground for several months in succession is deeply covered with snow. Except perhaps that the snow averages a couple of feet in depth, and that frost is almost continuous, the climate, however, can hardly be described as rigorous; for the weather is generally fine and calm, often with blue skies, and a bright sunshine so warm that on sheltered slopes exposed to the sun's rays it is quite enjoyable, in the middle of the day, to sit in the open air.

But the mere fact that the ground is everywhere deeply snow-covered makes it impossible for any birds to exist which depend upon food obtained from the surface of the earth. The few species to be seen were in most cases such as obtain their food upon the trees, or whose boldness enables them to pick up a subsistence in the immediate neighbourhood of human dwellings. The number of species actually observed did not exceed twenty.

Blackbird (*Turdus merula*).—I several times saw a solitary female close to the houses and hotel gardens in Grindelwald village, evidently the same individual. It surprised me very much to meet with this bird, as the Blackbird is not found at Grindelwald in summer, though it is common at Interlaken. In two different summers I have noted its abundance at Interlaken and its absence from Grindelwald. In fact, in the Alps, I have always found it to be a bird of the lowest valleys, not seen, as a rule, much above 2000 ft.; perhaps higher in Southern Switzerland, but not in the Oberland. Probably it leaves even the valleys in the winter, as the ground is generally snow-covered and frost-bound; and I did not see any Blackbirds at Interlaken when passing through on my way to Grindelwald, though I spent an afternoon there. This solitary individual at Grindelwald may have been an injured bird unable to migrate, and attracted to this village, 3500 ft. above sea-level, by the prospect of obtaining a livelihood in a populous winter resort, where many fragments of food might be obtained near the hotels and houses of the village.

Golden-crested Wren (*Regulus cristatus*).—I watched a bird of this species among the pines on the Faulhorn range, at a spot nearly 4500 ft. above sea-level. The trees were laden with snow, but this tiny bird was busy feeding, apparently finding plenty of food on the under sides of the spruce branches, whose snowy shroud formed a warm shelter. As I have seen this bird here in summer, it is evidently resident, able to hold its own among the thick pines against any rigours of the climate, and to obtain sufficient food throughout the winter from the insects or their larvæ which hybernate among the spruce-fronds, or in crevices of the bark. I may add that in the afternoons I frequently saw small flies about sunny spots on slopes facing the south.

Alpine Accentor (*Accentor collaris*).—I had abundant proof that this bird is by no means driven from its usual haunts by the rigours of winter, though it may to some extent draw near to human habitations. I saw one on the summit of the Faulhorn, nearly 9000 ft. above sea-level; another at a châlet on the way up, about 6500 ft., and several near châlets lower down; but in each case there were only solitary birds, and they were quite silent. Perhaps such an exposed spot as the summit of the Faulhorn would not have been frequented only for the fact that the inn there is open during winter, so that scraps of food might be picked up. The same may be said of some of the châlets mentioned, as tourists make them halting-places, and leave fragments of their meals about. The general colour and form of this bird, together with its speckled throat, reminded me of a diminutive Thrush. In many of its actions it also resembled the Chats.

Dipper (*Cinclus aquaticus*).—Quite common on the Lütschine, the stream which flows in the bottom of the valley, and which seems to be the only stream which never freezes. In winter this torrent is low and clear, very different from the grey and noisy flood in summer, when it is swollen by the melting of the glaciers. The Dipper has no difficulty in getting food even in the sharpest frosts. It was in full song on Jan. 20th, and on many other occasions, too, I heard its cheery twittering notes from the river-bed.

Great Titmouse (*Parus major*). — Very common. The inhabitants are very kind to the birds, and feed them regularly. A favourite method is to hang out an inverted bottle, corked, and with a piece cut out of the side of the neck. This is filled with hemp-seed or chopped suet, and according as the food next the hole is eaten a fresh supply comes down from above. The chief beneficiaries are the Tits, and of these the Great Tit is far the most numerous. Marsh-Tits are also common, but there is only an occasional Blue Tit. I did not see the Coal-Tit.

Marsh-Titmouse (*P. borealis*).— The Marsh-Tit was a common bird, and those which I observed were in every case of this form. They were large dark grey birds, with long tail and large jetty-black cap ; indeed, when sharing with the Great Tits in the food put out for the birds, they did not look very much smaller than their congeners.

Blue Titmouse (*P. cæruleus*).—Not numerous compared with the last two species. I several times noticed solitary individuals coming to the food supply.

Long-tailed Titmouse (*Acredula rosea*).—I frequently heard or saw this bird, generally near the alders fringing the unfrozen river in the bottom of the valley. Those which I saw were the British form, with black band on each side of the head. I have, however, seen the white-headed form at Grindelwald in the summer, and both may possibly be resident.

Nuthatch (*Sitta cæsia*).—Common and tame. I frequently saw it in the neighbourhood of houses, or clinging under the wooden eaves, where it shares the food supplied for the birds.

Alpine Pipit (*Anthus spipoletta*). — I did not see this bird in the Grindelwald Valley, and only mention it because I saw a small flock near Interlaken. Probably it forsakes the mountains altogether, and is only found in the lowest valleys in winter.

HOUSE-SPARROW (*Passer domesticus*). — Plenty of them in the village. They looked as dirty and untidy as any "city Sparrows" on the pure white snow.

CHAFFINCH (*Fringilla cœlebs*).—Fairly common. Frequent near the houses, where I often saw it partaking, along with the Tits, of the food supplied. It also was often seen on the stones in the bed of the Lütschine, where it seemed to find food at the edge of the water. Not seen in the woods.

SNOW-FINCH (*Montifringilla nivalis*). — A large flock at the top of the Faulhorn, 8900 ft. They were constantly about the hotel there, and their pleasant twittering quite enlivened that lonely spot. They are evidently able to exist in those arctic haunts the whole year round. I also saw them on the wing lower down, but not in the valley. No doubt they flock and wander more or less in the severe weather. A flight of these birds passing close to the observer, so that the black and white wings are displayed, is a very pretty sight.

BULLFINCH (*Pyrrhula europæa*).—Frequently seen and heard. It seemed chiefly to frequent the margin between the pine woods and the deciduous trees, the former no doubt affording it shelter and the latter food.

YELLOW BUNTING (*Emberiza citrinella*).—Common about the village and the valley, where, together with the House-Sparrow and Chaffinch, it seemed to obtain food from the droppings of horses on the roads, and other refuse in the neighbourhood of houses. As it is common at Grindelwald in summer it is no doubt a resident.

ALPINE CHOUGH (*Pyrrhocorax alpinus*). — A large flock about the summit of the Faulhorn seemed to show that this bird remains in its mountain haunts throughout the year, though how so large and numerous a species obtains food enough in those regions in winter is a mystery. It was certainly interesting to find this bird, the Snow-Finch, and Alpine Accentor frequenting the top of the Faulhorn, 9000 ft. above sea-level, in January, just as in June.

NUTCRACKER (*Nucifraga caryocatactes*). — Heard in the pine woods of the Faulhorn range, though I did not see the birds, which were concealed among the trees. I have seen it at the same place in the summer, though it is at all seasons shy and retiring.

Magpie (*Pica rustica*). — Numerous and conspicuous about the valley, where it was certainly one of the commonest birds. I have seen it at Grindelwald in summer, but it seemed far more abundant in winter. The reason for this may be that it frequents the neighbourhood of inhabited houses more at the latter season, in order to pick up a livelihood. I noticed an old nest in a leafless sycamore near the village.

Carrion-Crow (*Corvus corone*).—Very common, as in summer, but even more noticed, owing to its tameness and frequenting the neighbourhood of houses. I have seen a dozen or more perched on one tree like Rooks. It does not seem to go much above 4500 ft.

Grey Woodpecker (*Gecinus canus*).—I have no doubt that this and not *G. viridis* is the form found at Grindelwald, and it is common and resident. Its note was frequently heard near the village, but I never noticed it above 4000 ft. In fact, it seemed to confine itself to the region of deciduous trees, and not to frequent the pine forest. I examined a mounted specimen shot in the neighbourhood. It had a conspicuous greenish yellow rump, but its general colour was grey, ash-grey on the sides of the head and neck, a darker grey on the shoulders and back. The throat, breast, and under parts generally were greyish white. Quills brown, barred with white on the outer webs to near the tips, on the inner webs only near the base. A few of the longest upper tail-coverts were grey, between the yellow rump and the tail-feathers, which were brown, with pale bars as in *G. viridis*. The cheeks and lores were black without any red. Instead of the broad cap of crimson scarlet on the head, exhibited in *G. viridis*, with a wedge-shaped extension as far the nape, the scarlet on the crown would be better described as a broad stripe, reaching from the base of the upper mandible, with straight and parallel sides as far as the back of the head, where it ended abruptly with a square outline. The surrounding parts were ash-grey.

In the hotel on the top of the Faulhorn there are mounted specimens of the Blackcock and Ptarmigan, the latter in snow-white winter dress. I was informed that these had been shot in the valley or on the surrounding mountains.

SEALS IN KILLALA BAY AND THE MOY ESTUARY, CO. MAYO.

By Robert Warren.

In the 'Field' of March 4th, Mr. Hubert Donnison gives a very interesting account of the Seals frequenting the sand-banks of the Wash, on the Norfolk coast; while Mr. G. Ellis gives the weight of a female Grey Seal (heavy with young), shot by him in Orkney. It is very remarkable to hear of Seals living in such large numbers on the Wash, quite equalling, if not outnumbering, those in the most favoured localities in Scotland and the Scottish Isles, the headquarters of the Seals in Great Britain. As a few rough notes on the Seals and their habits, frequenting Killala Bay and the estuary of the Moy, may be of some little interest to naturalists and sportsmen, I venture to give them.

We have both the Grey and Common Seals, the former being much the more numerous, the habits of both species being very similar to those as given by Mr. Donnison as haunting the sand-banks of the Wash.

The Moy Estuary is separated from Killala Bay by the island of Bartragh, which is long and narrow, stretching for three miles quite across the inner part of the bay, from the Sligo to the Mayo side; the River Moy running out to the bay by a narrow channel at the eastern end, while at the western end the Moyne channel separates the island from the Mayo side near Killala. The estuary flats inside the island are a wide expanse of hard sand, with a few small islands scattered about it, but quite away from the Seal haunt, which is on the banks of the Moyne channel, to which the Seals resort to rest at low water. Their favourite resting ground is a bend in the channel, where they assemble on a point of sand, from which they can have a good view on both sides both up and down the channel, so that no enemy can approach unseen. Here they assemble as soon as the tide begins to leave the sand, and remain (if undisturbed) until floated off by the rising flood. Boats scarcely ever use this channel, so the Seals are seldom disturbed; yet, notwithstanding this quiet seclusion, they are excessively wary, and so keen of sight, that not even a shooting-punt is permitted to approach within range, and ordinary fishing-boats not within two hundred and fifty or three hundred yards. They are equally sharp in their sense of scent, so there is no use in attempting to stalk them "down wind," and before I ascertained this fact many a weary crawl I had on hands and knees to where the Seals were resting, and on rising up, gun in hand, to find that all had vanished, and the only trace left of their presence being the deep impressions of their huge bodies in the soft sand.

The numbers seen vary from time to time, but twelve to twenty may be seen any day, while a herd of thirty-four has been counted.

About the end of August and in September we used occasionally to see the females accompanied by their young ones, which, though very small, were able to swim alongside their mothers, and we often thought when seen swimming on the surface that the young occasionally rested on the mother's back between her shoulders, for the position of the cub's head at the back of the mother's gave one that idea. I do not think the females calve on the sand-banks, but suspect they bring forth their young in the many large caves that perforate the great cliffs of the North Mayo coast from Killcummin Head to Benwee Head, where they remain until strong enough to accompany their mothers to the sand-banks of the estuary.

I have only once come across a very weak young Seal. I was walking one evening on the Bartragh side of the Moyne channel, and, observing a Seal resting on the bank opposite, I went towards it for a closer view. However, on my approach the Seal got into the water, leaving a young one behind her, about ten yards from the water; the little calf was scarcely able to crawl, but attempted to follow its mother, feebly crawling a couple of yards, then resting, and bawling like a young calf (the voice being exactly like that of a cow's calf). It progressed along in this slow way, taking frequent rests, and bawling each time, until it got into the water; and whenever the calf called the mother became excited, furiously dashing about in the water, but never uttering a sound. From the size and weakness of this little Seal, it could have been only a few hours old, but where it was born I cannot think, for there are no caves nearer than Killcummin Head, seven or eight miles off, and the little creature could not have come that distance.

I have shot both species, but never killed a Common Seal of greater length than between five and six feet, but the Grey Seals grow to a far greater size and weight. Some years ago, about the end of May, I shot a female Grey Seal, 5 ft. 11 in. in length from nose to end of hind flippers, girth 3 ft. 8 in., and weighing 217 lb. On skinning and opening her, we took a fully matured young one, 2 ft. 2 in. in length, covered with a thick coat of long white hair. The blubber of the old one, when melted, produced four gallons of pure clear oil.

The old bulls of this species attain far greater size and weight. One shot by a friend a couple of months later weighed 314 lb., and, though so much larger than the female, only produced three gallons of oil. In my experience, the old bull Seals produce far less oil than the females, while the small year-old Seals produce more than either, in proportion to their size. Another old bull, shot by the same friend (a splendid rifle-shot), was obtained after a long stalk over the sands. We observed the herd of about a dozen lying on the sloping edge of the sand-bank quite below the level of the sandy flat; so my friend, making a wide detour inside, crept down on hands and knees opposite to where the Seals were resting, quite oblivious of any danger; he then lay down, working himself, with his elbows, along on his chest, until he got within twenty yards of the Seals; then quietly rising, rifle in hand, and choosing out the largest of the herd, he fired at the middle of his back, sending the bullet right through his lungs. Instantly on the shot the entire herd scrambled into the water, and we thought the wounded beast was lost; but, to our surprise, he rose a few yards from the bank, then dived, but rose again from the same place, as if unable to remain any time under water from the blood filling his lungs.

Seeing him so disabled, we ran for our boat, and soon overtook him, giving him another shot, which turned him over, and, laying hold of his flippers, we held on until he died, and then with great difficulty hauled him into the boat, almost capsizing her in doing so. I did not measure this Seal, but weighed him, when he turned the scale at 350 lb.

The largest Grey Seal ever known to be obtained in this locality was shot at the Enniscrone bag-nets, on June 29th, 1880. He was a very old bull, and measured 8 ft. in length from nose to end of flippers, was 5 ft. 8 in. in girth, and weighed 560 lb. This great beast for over two years annoyed the fishermen very much by tearing the bag-nets, taking the Salmon, as well as scaring others from entering the nets; he was often fired at, but always escaped until this day, when, as he emerged from the net with a live Salmon in his mouth, a man with a rifle was watching him from the pier, and, as he turned his head, fired, and sent a ball through the back of his skull, on which he instantly sank, but next day was thrown up by the tide on the shore with the Salmon still between his jaws. Although this was the largest Seal obtained on this coast, yet much larger specimens have been got on the Farne Islands, off the coast of Northumberland. William Thompson, in his 'Natural History of Ireland,' states "that Mr. George Ransome, of Ipswich, wrote to him that a Grey Seal, weighing 770 lb., had been obtained on the Farne Islands by a Mr. Robert Pattison, of Bedford; and of another specimen captured on the same islands, weighing 740 lb., sent to the British Museum." No doubt equally large specimens frequent the Irish coast, but have escaped capture, or if taken have not been recorded. The late Mr. A. G. More showed me, in the Kildare Street Museum, the skull of a very large Grey Seal, shot by the late Dr. Neligan, of Tralee, on the Kerry coast, but the only statement of its dimensions given was that the skin, when cured, measured nine feet in length.

I have when without my gun occasionally come very close to Seals. On one occasion I was walking down along the Bartragh side of Moyne channel, when, observing a large Seal resting on the bank about ten yards from the water, I thought of trying how close I could get to him; so, dropping on hands and knees, I began creeping towards him, dropping down flat on my chest whenever he raised his head to look round. In this way I reached within five or six yards, when, turning his head, he saw me, and made for the water. I started up, rushed at him, and just as he got to the water seized one of his flippers, but was unable to hold on, for his vast strength dragged it out of my hands.

On another occasion I was out with my punt and gun very early one morning down at Bartragh, trying for a shot at Wigeon near the Sloke Rocks (a favourite haunt); there were no Wigeon, but at the lower end, resting on a big boulder, was a large Seal. After he had got on the rock the tide had fallen considerably, leaving him stranded at least four feet from the water. Not having my "cripple-stopper" with me, and not being able to elevate the big gun high enough to shoot him, I let the punt drift down to the rock, and, as he was looking out seawards, he did not see me until I gave him a dab in the side with my paddle, when, with a startled snort, he plunged into the water with a great splash, never rising until well out of range.

The last Seal obtained was captured very easily. I was one evening out Rabbit-shooting, and, walking in one of my fields, my attention was attracted by hearing some extraordinary sounds proceeding from the shore—a mixture of grunting and groaning. Looking over the hedge, I saw the sounds were emitted by a young Seal, just come out of the water; but, as the shore was covered with small sharp stones, he evidently disliked his position, and grunted and groaned while wriggling himself into a more comfortable resting place; he then ceased, and, laying down his head, went to sleep. Having only No. 6 shot in my gun, I disliked the idea of firing at and only wounding him; so I thought of taking him alive as he slept. Going back some distance to get down on the shore, I crept up quietly to within seven or eight yards, when a tug-steamer coming up the river, to my great disgust, woke him with the noise of the paddles, at which he raised his head to look out. I took up my gun and fired, hoping that the shot would bother him so that he might be caught before getting into the water; this occurred, and so confused him that he turned to the land instead of to the water; when, rushing forward, and catching his hind flippers, I dragged him up from the edge of the water; but, though I had him on the land, I did not know how to despatch him. I could not reach my gun to hit him with the butt; there was no bit of wood or stick near me; so, with a puzzled look all round, I at last saw an old cabbage-stump left by the tide a few yards from me, and, dragging the Seal within reach, I killed him by a few blows with it across the snout—the first Seal, I suppose, that was ever killed with a *cabbage-stump*. He was a young Grey Seal of about 70 lb. weight, and was covered with a beautiful coat of silvery white hair.

NOTES AND QUERIES.

AVES.

Early Arrival of the Chiffchaff (Phylloscopus rufus) in Cheshire.—On March 19th—some ten days earlier than its song is usually heard in Cheshire—a Chiffchaff was singing at midday in the shrubbery at Oulton Park, where I watched it for some time at close quarters.—Charles Oldham (Knutsford).

Supernumerary Nests of the Wren (Troglodytes parvulus).—It is, I think, probable that the unfinished Wrens' nests so commonly found near those intended for the reception of the eggs are often, if not usually, tenanted by the recently-fledged young, although I have not noticed, in the nests that I have had under observation, the curious haste to quit their original quarters displayed by the fledglings mentioned in Mr. Bentham's note (*ante*, p. 107). For some years I have suspected that the explanation of the supernumerary nests is to be found in the roosting habits of the Wren, but the explanation (if such, indeed, it be) throws little light upon some other points to be mentioned presently. Wrens are known to sleep in companies during the autumn and winter in nests, or in such places as holes in walls, thatches, or haystacks. Now, if we suppose that a pair of Wrens succeed in rearing ten offspring in two broods, the family of twelve will require two, or even three, nests in which to sleep during the winter if other convenient situations are not available. On the other hand, the supernumerary nests are often built before the one in which the eggs are laid, and in some cases such nests appear to be unconnected with a breeding nest. Further, the extra nests are always unlined, and often mere shells of moss. I trust that readers of 'The Zoologist' will be induced to pay attention to the interesting questions raised in Mr. Bentham's note, and I venture to indicate a few points especially worthy of investigation:—(i) If the deserted nest is not again used the feather lining should be taken out and carefully examined for vermin, excreta, &c. If a second brood is reared in the same nest as the first, we have in this circumstance a sufficient reason why the first brood should be provided with extra quarters. (ii) It should be noted whether one of the extra nests is used at night by one or both the birds before the period of incubation. (iii) In the absence of unfinished nests, the vicinity should be examined for other sleeping quarters. I may add that the singular habit of building supernumerary nests is also shared by the American Wrens of the genus *Troglodytes* (*cf.* Darwin, 'Origin of Species,' original edit., p. 243; 6th. ed. p. 234). W. Ruskin Butterfield (4, Stanhope Place, St. Leonards-on-Sea).

[Samuels accounts for the peculiar habit both the Long-billed and Short-billed American Marsh-Wrens have of building several nests in one season, by the theory that they are made to protect the sitting female, for it is noticed that the male bird always lures a visitor to an empty nest, and, if this does not satisfy his curiosity, to another one, to prove conclusively that he has no family in prospect (*cf.* Neltje Blanchan, 'Bird Neighbours,' p. 120).—Ed.]

Curious Nesting of the Wren.—During the past year the following instances of the nesting of this bird came under my personal observation:—Within our parish church a nest (evidently that of the male) was built in the folds of the curtain at the side of the organ. The nest was by a mishap shaken down, but, nothing daunted, another nest was completed within the same position on the following Sunday; the entrance and exit for the bird being through the open window some short distance away from the nest. In my brother's garden at Oakham, near Dudley, a nest (that of the male bird also) was built within the head of a sprouting broccoli. At Newnham, near Bedford, I had pointed out to me the remains of nests of a Wren that had utilized a succession of strange sites with remarkable perseverance. The first two nests were attempted within the folds of a sack used as a covering placed over the machinery, the third in the pocket of an old coat left hanging near by. The fourth nest, in which four eggs were laid, was built inside the top pulley of a band-saw; fifth nest, in which two eggs were laid, was constructed inside a Sparrow's old nest; all of which positions were within the one engine-shed; the sixth nest, built in a hedgerow close at hand, whence, I am pleased to add, young were successfully reared. In addition, I might note that a nest of the Wren built in a hole in the wall in one of my outbuildings, completed, with exception of a lining of feathers, on March 10th, did not contain a clutch of eggs until May 6th.—J. Steele-Elliott (Dowles Manor, Bewdley).

Nesting Habits of the Wren.—With reference to Mr. Bentham's note (*ante*, p. 107), the following may be of interest:—Some years ago a Wren's nest was built in some creepers on the wall of the house in which I then lived, and was left in the unlined state. It was in full view of the windows, but was to all appearance deserted. After about six weeks, however, a brood of young Wrens, just flown, appeared in the evening, and took up their abode in the nest for the night; a thing which they continued to do every evening for some time. I regret that the exact length of time during which they continued thus to roost in the nest was not noted. In November last a friend of mine described to me a nest which had been built the previous spring under the projecting thatch of the roof of his summer-house. As he was uncertain to what bird the nest had belonged, it was suggested that I should come and look at it. It was after ten o'clock at night, and my friend took a lantern to give us light. As soon as the light was cast on the nest under the thatch, which proved to be a Wren's, a Wren darted out of it, fluttered for a moment in the light of the lantern, and disappeared into the darkness, showing that these incomplete nests are intended not only as shelters for the young broods, but also as warm roosting-places during the winter. It would be interesting to hear the opinions of practical observers as to the number of these "cock" nests in proportion to those used for purposes of incubation. I should think them about five to one. That the male is the builder of these nests I have frequently had proof, having heard him sing while engaged in building.—ALLAN ELLISON (Watton-at-Stone, Hertford).

Water-Pipit at Eastbourne.—It is perhaps worth recording that I shot two Water-Pipits (*Anthus spipoletta*) here in November last, on the 17th and 25th respectively. They attracted my attention by their large size and unusually dropping flight; they were flying round some pools of brackish water near the town. I should have reported them before, but waited to get them identified by Mr. Howard Saunders, which has now been done. The local birdstuffer has never had any in before.—E. C. ARNOLD (Blackwater House, Eastbourne College).

Pacific Eider (Somateria v-nigrum) in Orkney.—The bird recorded by Mr. W. J. Clarke in 'The Zoologist' (*ante*, p. 74) differs in several features from the descriptions of the species given by Gray (Proc. Zool. Soc. Lond. pt. xxiii. p. 211, 1855), and Salvadori (Cat. Birds, Brit. Mus. vol. xxvii. p. 431). On Dec. 17th (three days after death) the bare spaces at the base of the bill were dull ochreous yellow, and the tip clear horn-colour. The tarsi and toes were olive-green, the webs blackish, and the irides dark brown. On comparing the bird with the Common Eider, and the type-specimen of Dresser's Eider in the Owens College Museum, Manchester, several differences not given by Salvadori or Gray were noticed. In the Pacific Eider the bare spaces of the bill and the feathered wedge on the culmen are far more acute than in the common species; and, as the latter feature is said to be apparent even in the young in down, it may possibly serve as a means of separating the females of the two species. In the Orkney bird the green colour of the occiput does *not* extend towards the eyes as a border to the black cap, in this point resembling the Common Eider, and differing from Dresser's Eider and the plate of the Pacific Eider which accompanies Gray's original description of the species. The specimen was exhibited at a meeting of the British Ornithologists' Club on Jan. 18th (*vide* Bulletin of the B. O. C. cxii. p. 32). — Fred Stubbs (Oldham).

Pacific Eider in Orkney (*ante*, p. 74).—In the February number of 'Knowledge' I see the Pacific Eider (*Somateria v-nigrum*) mentioned as having been shot at Scarborough, Yorkshire, on Dec. 16th, 1904, the same mistake occurring in 'Nature.' In the 'Field' of Feb. 18th I gave the full history of the specimen, which was not shot in England at all, but in Orkney. It is as follows:—It was shot by George Sutherland, my assistant boatman, on Dec. 14th, off the island of Graemeay, near Stromness, before my arrival in the islands. He sent it with some other Eiders to a taxidermist in Scarborough, who wrote to young Sutherland, and told him that he could not pay him the usual price for it as it was such a *poor specimen*, and could therefore give him only *half a crown* for it! The buyer sold it to the Oldham Natural History Society as a Common Eider, and the secretary of this Society sent it up to South Kensington, where it was identified as a Pacific Eider. In January and February, 1904, I was also wild-fowling in Orkney, and Sutherland senior, uncle of the above youth, described a bird which he had shot some years ago, which I took to be an American Eider, and this year he told me that this particular bird was identical in all respects with the one shot by his nephew; so the species has occurred before in Great Britain, and the new specimen is not the first occurrence in Europe. On Feb. 22nd we saw, in the Bay of Ireland, near Stromness, a very peculiar female Eider, a single bird, which we hit three times, but failed to bag. She was much smaller than the Common Eider, and was very light coloured, the head appearing to be almost white. I had my glass on her for nearly half a hour before we came up to her. as the wind had dropped completely, and could not make her out at all; neither could either of my boatmen, the Sutherlands, who are professional fowlers, and have shot hundreds of Eiders. What was she? is it possible that she was the widow of the late lamented Pacific Eider drake?—H. W. Robinson (Lansdowne House, Lancaster).

Smew (Mergus albellus) in Cheshire.—On March 5th, when with a friend I was watching the wildfowl on Oulton Mere, we detected a Smew among a party of Pochards and Tufted Ducks. The bird at a distance looked like one of the smaller Grebes, for it moved at a great pace through the water, swimming so low that its shoulders were often awash, and repeatedly dived in a clean Grebe-like fashion. Its association with the Tufted Ducks and Pochards was merely fortuitous, and presently it left them and swam, diving as it went, towards two Golden-eyes—an old drake and a brown-headed bird—that were feeding in another part of the mere. Some Mallards standing on the bank rose at our approach, and alarmed the other fowl, which all got on the wing. The Tufted Ducks and Pochards soon settled again on the water, but the Golden-eyes, always wilder and more wary than other Diving Ducks, after flying up and down the mere once or twice with the Smew in their company, made off in the direction of another sheet of water a mile away. When we reached this place the Golden-eyes were not to be seen, but the Smew had joined a covert of Coots. It moved about the pool, fishing intermittently, and we were able to watch it for some time at close quarters before it arose in alarm and returned to the mere. It was an immature grey-backed bird, with reddish brown head and hind neck and white cheeks; from its small size when contrasted with the Tufted Ducks on the wing, we concluded it was a female. In flight the broad lozenge-shaped white wing-spot was very conspicuous. The bird flew very rapidly, and more than once made an oblique downward plunge similar to the aerial dive of a Teal. Mr. H. E. Forrest tells me that a Smew, shot on Marbury Mere, near Whitchurch, on Jan. 27th of this year, was sent into Shrewsbury for preservation. It is a male in immature dress, probably a bird in its second winter, as it shows a good deal of white in its plumage. This species is rare inland in Cheshire, and I only know of one occurrence previous to this year. An immature example preserved in a local collection is labelled "Tatton; shot with another in hard frost, January, 1867."—Charles Oldham (Knutsford).

Varieties of Moorhen and Blackbird.—At the end of December last the anomaly of a white Blackbird was shot in the neighbourhood of Christchurch. It was a mature male, and its whole plumage was of a spotless white, except the tip of one of its outer tail-feathers, which was dusky. The circles round its eyes and its beak were a bright lemon colour, but its eyes were normal, and its legs very little lighter than in an ordinary dark specimen. On previous occasions I have seen immature specimens of both Blackbird and Thrush wholly white, but they invariably had pink eyes, and their legs were much lighter than usual. About the middle of January a peculiarly dappled Moorhen was shot near here, and kindly given to me. It was a very large bird; the head, neck, and breast were of the usual dark colour, but from the shoulders to the tail it had more white than black about it, the under parts and some of the larger quill-feathers of the wings being wholly white, one of the wings, when expanded, having the peculiarity of black and white quills alternately. Its legs were of the usual greenish hue, the red garters appearing very conspicuously, but not more than the well-developed nails, which were quite white, but have since faded to a dull pale green. My experience is that this common bird is not so often seen with white feathers in its plumage as some other species are; and, having showed my specimen to several men whose life-work has been near the river, and to whom the Moorhen is probably the most familiar bird, I was told that none of them ever saw a specimen anything like it.—G. B. Corbin (Ringwood, Hants).

Nesting of the Lapwing (Vanellus vulgaris).—Referring to Mr. Kelso's notes on the nesting of the Lapwing (*ante*, p. 108), I have turned up his reference in the 'Transactions of the North Staffordshire Field Club,' which is to be found in the volume for 1895, p. 48. Mr. R. H. Read supplied me with notes describing the two Lapwings' nests in question, which were raised "quite ten inches high; . . . no doubt" (as Mr. Read said) "the birds were guarding against inundation of the nest if the water in the reservoir rose higher." The ground was not particularly wet, but subject to inundation after storms. The reservoir is one of the Water Company's store reservoirs.—John R. B. Masefield (Rosehill, Cheadle, Staffordshire).

Curlew-Sandpiper on the Dee Marshes in February.—On Feb. 19th, Mr. C. Oldham and I watched a Curlew-Sandpiper (*Tringa subarquata*) on these marshes; it was in very grey and white winter plumage, a conspicuous object on the grass. There was a strong westerly breeze on that day, with a high tide, and the bird was sheltering head to wind in a slight depression in the turf, its dark coloured decurved bill showing plainly as it moved its head continually from side to side watching us. Though not uncommon as a passing visitor in the Dee and Mersey estuaries in autumn, it is, however, very unusual to meet with one in winter in this district, and the occurrence is therefore worth recording. Perhaps in this case the bird had been prevented by injury from leaving at the usual time, or possibly it had been induced to remain on here by the mild weather and a plentiful supply of food. We did not actually see the bird fly, but it could run well, and had no appearance, so far as we could see, of being in the least degree wounded. In 'The Zoologist' (1904, p. 66), Prof. J. H. Salter, in his "Ornithological Notes from Mid-Wales," states that Mr. Fielden saw a flock of about thirty Curlew-Sandpipers on the golf-links at Borth on Feb. 10th, 1902. It would be interesting to know what was the plumage of these birds at that date; also if there is any evidence to show that they ever pass the winter on that coast. On Oct. 9th, 1904, Dr. W. H. Dobie and I saw one of these birds feeding in company with a Dunlin by the side of a gutter on the Dee marshes. This one was much darker than the bird seen in February, somewhat resembling, as they do at this time of year, a Dunlin in winter plumage. It was absurdly tame; several times we put it up, but it invariably returned to the same spot, after flying round in a circle (the white tail-coverts being then very obvious), or moved across to the opposite bank, a few yards distant. The note, uttered when in flight, is more of a trilling sound, and more continuous than a Dunlin's cry. When feeding the bill is inserted sideways or diagonally (not vertically) in the ooze or mud, very much like that of a Curlew or Whimbrel.—S. G. CUMMINGS (Chester).

Wildfowl on the Hampshire Avon during the Winter of 1904–05.— The past winter was almost the exact opposite of its predecessor in the amount of rainfall, and consequent flooding of the meadows near the river—in fact, at times the water was as low as it often is in the middle of summer;* yet, notwithstanding this apparent drought, an extraordinary number of wildfowl visited the neighbourhood, especially Wigeon and Teal, the latter particularly affecting the shallower parts of the river, where they feed; but both species, ever alert and on the watch, were hard to approach, and once on the wing were far more cautious of again alighting than any locally bred fowl, for, although the Teal generally are best to keep in line of the stream, the Wigeon, after being shot at, get up to a great height, and make off towards the sea. The number of home-bred species, as Wild Duck, Coot, &c., were greatly augmented by migrants, although as a whole the winter was mild and comparatively open. Considering the lowness of the water, and consequent easy access to the river-banks, it is no great wonder that record "bags" have been made, taking the season as a whole. On one shooting considerably over one thousand head (including Coot and Moorhen) were accounted for, but it should be remembered this was the produce of four or five separate days of sport, whereas in the previous winter between four hundred and five hundred head were taken in a single day, but on that occasion, I believe, the number of guns was greater. In point of numbers killed, the Wild Duck (*Anas boscas*) heads the list on this shooting, and it should be mentioned none were hand-reared; nearly five hundred were taken, over two hundred Wigeon, and about half the number of Teal. I am glad to say the Pochard has again returned to some of its old haunts, where for many years it was almost entirely absent; about a dozen were killed on one shooting, and undoubtedly the Shoveler has been more frequent for the last few winters than it was previously, and I should not be surprised if a few pairs remain in the vicinity the whole year, although from personal observation I cannot establish the fact of the nest having been found. Several Gadwall, a few Pintail, Golden-eye, and Tufted Duck, all in various stages of immaturity, were met with, and one almost mature male Goosander was killed at the old spot, where for years it had disappeared, but was formerly an annual visitor in some numbers. Several Bittern were seen, but I am glad to say I know of but one being shot. A somewhat curious incident occurred at one of the shootings; a Mallard, at a considerable height, had been shot, and in its fall collided with a Coot that was on the wing, and, breaking the Coot's back, killed it at once. Whilst on the subject of wildfowl, I may note that a most unusual number of Woodcock visited the neighbourhood of the woods and heaths of the vicinity, and I should suppose record "bags" must have been made on several of the shootings situated in favourable localities. I was informed that two guns secured twenty Woodcock in one day, and, my informant added, "and ought to have been double that number." I understand that this much esteemed bird was also unusually abundant in the forest, but I have no means of ascertaining the sport experienced; let us hope more birds than usual will remain to nest in that locality. Is there not a grain of superstition—appertaining to good or ill luck—in the habit of some sportsmen cutting off this bird's legs, or is it merely to withdraw the tendons from the "Woodcock's thigh," that limb so dear to the epicure's palate? Also, what is the supposed reason that some Dogs will not retrieve a Woodcock, although they will hunt and "flush" it. Is it a peculiar scent the bird has? A sporting friend of mine once had a valuable Dog that would retrieve almost anything, but on two separate occasions it quite refused to touch a Green Sandpiper (*Totanus ochropus*), and any person who has handled that pretty little species must have detected the peculiar smell it has.—G. B. Corbin (Ringwood, Hants).

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* The River Mole, in Surrey, was in this condition throughout the winter. ED.

Notes on the Ornithology of Richmond Park, Surrey.—

Kestrel (*Falco tinnunculus*).—On Feb. 26th saw three—one in the Sidmouth Plantation, and two hunting for prey in the vicinity of the Penn Ponds.

Tawny Owl (*Syrnium aluco*).—Numerous.

Cuckoo (*Cuculus canorus*).—Fairly numerous in the summer months.

Great Spotted Woodpecker (*Dendrocopus major*).—Very rarely seen; have only two records—one on May 19th, 1904, near Robin

Hood's Gate, and the other on Aug. 28th, 1904, in the enclosure at the head of the Penn Ponds.

Lesser Spotted Woodpecker (*D. minor*).—More numerous than its ally, but is not conspicuous, and therefore apt to be overlooked. It is more often heard than seen.

Green Woodpecker (*Gecinus viridis*).—Common compared to the last two species.

Wryneck (*Iÿnx torquilla*).—Generally met with in the summer months.

Nightjar (*Caprimulgus europæus*).—Very numerous. Regularly breeds in the enclosures.

Swift (*Cypselus apus*).—Common during its stay with us.

Carrion-Crow (*Corvus corone*).—A few individuals seem to stay regularly in the Park.

Rook (*C. frugilegus*).—Common.

Jackdaw (*C. monedula*).—Same as preceding species.

Spotted Flycatcher (*Muscicapa grisola*).—Numerous. Summer visitor.

Mistle-Thrush (*Turdus viscivorus*).—Frequently met with.

Song-Thrush (*T. musicus*).—Common.

Blackbird (*T. merula*).—Common.

Fieldfare (*T. pilaris*).—Occasionally met with.

Wheatear (*Saxicola œnanthe*).—Numerous. Summer visitor; breeds on the open spaces.

Whinchat (*Pratincola rubetra*).—Numerous. Summer visitor. Breeds.

Stonechat (*P. rubicola*).—By no means common. Have but few records.

Redstart (*Ruticilla phœnicurus*).—Numerous. Summer visitor.

Robin (*Erithacus rubecula*).—Common.

Nightingale (*Daulias luscinia*).—Fairly numerous, but by no means common.

Whitethroat (*Sylvia cinerea*).—Numerous.

Lesser Whitethroat (*S. curruca*).—Rare. Have only distinguished this species three times.

Blackcap (*S. atricapilla*).—Numerous.

Garden-Warbler (*S. hortensis*).—Fairly numerous.

Goldcrest (*Regulus cristatus*).—Very rarely met with; have but two records.

Chiffchaff (*Phylloscopus rufus*).—Fairly abundant.

Willow-Warbler (*P. trochilus*).—More numerous than the last named.

Wood-Warbler (*P. sibilatrix*).—A few pairs met with annually.

Hedge-Accentor (*Accentor modularis*).—Common.

Wren (*Troglodytes parvulus*).—Abundant. Noticed one running up a tree-trunk, after the manner of a Tree-Creeper, on Feb. 26th, 1905.

Red-backed Shrike (*Lanius collurio*).—Met with now and again.

British Long-tailed Titmouse (*Acredula rosea*).—Fairly abundant, and sometimes met with in families, especially in the winter months.

Great Titmouse (*Parus major*).—Common.

British Coal-Titmouse (*P. britannicus*).—Rather rare.

Blue Titmouse (*P. cæruleus*).—Common.

Marsh-Titmouse (*P. palustris*).—Rare.

Nuthatch (*Sitta cæsia*).—Rather numerous.

Tree-Creeper (*Certhia familiaris*).—Not quite so numerous as the last named.

Pied Wagtail (*Motacilla lugubris*).—Common.

Yellow Wagtail (*M. raii*).—Very numerous in the summer, and breeds plentifully in the bracken.

Meadow-Pipit (*Anthus pratensis*).—Rather uncommon.

Tree-Pipit (*A. trivialis*).—Summer visitor; more numerous than the last named. Breeds in the bracken.

Swallow (*Hirundo rustica*).—Fairly abundant.

Martin (*Chelidon urbica*).—Same as the Swallow.

Sand-Martin (*Cotyle riparia*).—Sometimes met with hawking for insects over the Penn Ponds. These birds, I believe, come from Coombe Warren, where they breed.

Goldfinch (*Carduelis elegans*). — Rare. Have but one record—September, 1903.

Greenfinch (*Ligurinus chloris*).—Numerous.

House-Sparrow (*Passer domesticus*).—Common.

Tree-Sparrow (*P. montanus*).—Irregular; met with two on May 19th, 1904.

Chaffinch (*Fringilla cœlebs*).—Common.

Linnet (*Linota cannabina*).—I have only one record of this species.

Bullfinch (*Pyrrhula europæa*).—Have no record of this bird, but I may mention that I have seen it in Kew Gardens.

Corn-Bunting (*Emberiza miliaria*). — Have no record of this bird, but have seen it once on Ham Common.

Yellow Bunting (*E. citrinella*).—But rarely seen; have only three records.

Starling (*Sturnus vulgaris*).—Common.

Sky-Lark (*Alauda arvensis*).—Numerous.

Ring-Dove (*Columba palumbus*).—Common.

Stock-Dove (*C. œnas*).—By no means uncommon.

Turtle-Dove (*Turtur communis*).—Numerous summer visitor.

Pheasant (*Phasianus colchicus*).—Only found in the enclosures. Not very numerous.

Partridge (*Perdix cinerea*).—Have but one record of a pair, near Robin Hood's Gate, on June 26th, 1904.

Moorhen (*Gallinula chloropus*).—By no means numerous; what few there are keep principally to the marshy ground at the head of the ponds.

Coot (*Fulica atra*). — Common. May generally be observed on both ponds.

Sandpiper (*Totanus hypoleucus*). — Have never seen this species personally. A friend of mine, whose observations may be relied upon, told me that he saw one feeding, in the latter part of 1903, at the side of the largest pond.

Lapwing (*Vanellus vulgaris*).—Have never seen this species actually in the Park.

Heron (*Ardea cinerea*).—There is a small heronry in the Sidmouth Plantation, and birds returning from their hunting-grounds are often seen in the neighbouring district.

Canadian Goose (*Bernicla canadensis*).—There are about a dozen or so of these birds in a semi-wild state, and a pair succeeded in bringing up two young last year.

Mallard (*Anas boscas*). — Resident, but numbers are added to in the migration seasons. I may here remark that I have continually seen Ducks perching on the lower branches of trees, and on the posts and rails which surround the island in the largest pond.

Tufted Duck (*Fuligula cristata*). — Have only one record of two males and one female on Feb. 26th, 1905. I watched these birds for nearly an hour from different positions, and there was no mistaking them.

Pochard (*F. ferina*). — Frequently met with, but never staying for any time. On Feb. 26th I counted forty-six, and on the 4th and 5th four.

Great Crested Grebe (*Podicipes cristatus*). — One pair breeds annually.

It will be seen from the above list that I have observed about seventy kinds of birds in this Park, but more frequent visitors than I could no doubt add to the list. It may not be generally remembered that an Osprey (*Pandion haliaëtus*) was seen at the Penn Ponds, and subsequently killed at Barnes, in 1889; and another one seen in 1898.

No doubt many other rare birds have from time to time been met with, but unfortunately I have not got the means for recalling them.—L. B. Monritz (6, Esmond Road, Bedford Park, W.).

PISCES.

Fecundity of Fishes.—The fecundity of many fishes is well known, and on considering the subject one must be struck with the thought of the countless number of eggs that never reach maturity. In December last a female Perch (*Perca fluviatilis*) of just over three pounds weight was given me for preservation, and on extracting the pouch containing the spawn I found it weighed over nine ounces; the ova were very small, and I suppose, at that season, in an apparently undeveloped state, as I am informed the spawning does not take place before April or May.—G. B. Corbin (Ringwood, Hants).

[The late Frank Buckland found the number of eggs in two specimens of this fish as follows:—Weight of fish, 3 lb. 2 oz.; eggs, 155,620. Weight of fish, 8 oz.; eggs, 20,592. It is also recorded that upwards of 280,000 have been taken from a half-pound fish (*cf.* Zool. 1899, p. 342.—Ed.]

THE ZOOLOGICAL SOCIETY'S GARDENS.

The spring always brings interesting additions to the Zoological Gardens in the form of newly-born young. The first to make their appearance this year are three litters of puppies in the Wolf-dens, namely, one of Dingos, one of hybrid Dingo and Wolf, and one of Wolves. The latter were whelped by the American Timber Wolf bitch, who has proved herself in past years a good breeder but a bad rearer of young. Last spring her litter of eight was divided, four being given to a Colley, who raised them successfully, and four left with the mother, who brought up only two. This year also there are eight pups, but, as the result of last year's experiment, two of them are entrusted to the mother, and the remaining six to a foster, who has one of her own pups as well. It remains to be seen which of the two bitches will give the best results. Amongst the Herbivora have been born a young male Eland and a Bactrian Camel of the same sex. The former is the more valuable asset, but too closely resembles the calf of a domestic Cow to be very attractive to the public. The Camel, on the contrary, is a quaint little caricature of his mother, and will well repay a visit.

Naturalists interested in the British fauna will be glad to hear that a Scotch Wild Cat seems to be settling down, and getting reconciled to her quarters, though still very savage and wild. She was trapped near Loch Carron in Ross-shire, and seems to be recovering from the gin-wound to her fore leg. The shy and savage nature of these Cats, coupled with the shock and injury often incidental to their capture, makes them difficult animals to keep during the first few weeks of captivity. In addition to the above mentioned, the menagerie has received on deposit a very fine series of Australian Marsupials, the most important of which are two Wallaroos, a Bennet's and an Agile Kangaroo, a Brush-tailed Wallaby, a Ring-tailed Phalanger, two Short-nosed Bandicoots, and a Brush-tailed Pouched Mouse, the latter a rare and attractive little animal.

At the present time there is perhaps no more attractive exhibit in the Gardens than the Birds of Paradise. Specimens of three species—namely, one of the Greater, two of the Lesser, and two of the King—may now be seen in adjoining cages in the Insect House. One of the Lesser is in perfect plumage, and habitually shows off in the early mornings when the sun shines. These birds do not all belong to the Society, some being on deposit; and, since the series may at any time be broken by the removal of one or more of the specimens, those who wish to see this unique exhibition are recommended to avail themselves of the opportunity.

At the beginning of the year the only specimen of Rhea in the Gardens was the female Darwin's, which last season paired with a male of the Common Rhea, and laid three eggs, which were successfully hatched off in the incubator. As a mate for her this spring, the President has deposited one of the two male Darwin's Rheas that until recently were at Woburn. The Society has in addition procured two pairs of Common Rheas, one pair by purchase, already mentioned in the last number of 'The Zoologist,' and an additional pair presented by Arthur Holland, Esq., on the 8th of last month. The stock of Struthious birds has been still further augmented by a young male Masai Ostrich presented by Capt. J. S. Cavendish.

R. I. P.

NOTICES OF NEW BOOKS.

The Fauna and Geography of the Maldive and Laccadive Archipelagoes; being the Account of the Work carried on and of the Collections made by an Expedition during the Years 1899 and 1900. Vols. I. & II. Edited by J. Stanley Gardiner, M.A., &c. Cambridge: at the University Press.

Two volumes of this important publication have been completed, and, though we are promised some supplementary parts, the work may now be considered as a distinct unit in biological literature, and further delay in notice is unnecessary. The expedition to these faunistically unknown archipelagoes—for our knowledge was so slight and incomplete as to be practically of little use—was undertaken by Mr. J. Stanley Gardiner, who left England at the end of March, 1899, in the company of Mr. L. A. Borradaile, a partnership that was soon dissolved owing to an unfortunate attack of sunstroke, which compelled the last-named naturalist to return home. Mr. Forster Cooper subsequently joined the expedition from England, and some amount of the work accomplished may be appreciated when we read that two hundred and seventy-three dredgings were recorded in the Maldives, which were finally left on April 25th, 1900.

Mr. Gardiner has contributed an early memoir on the Coral Reefs of the Indian Ocean, which gives us a firm grasp of the status of the Maldive and Laccadive Archipelagoes. "The soundings, such as they are, although not quite close enough, give strong indications that the belt between Madagascar and India is cut by a depth of over 2000 f. in three places, *i. e.* between the Maldives and Chagos, between the latter and Saya de Malha Bank, and between Farquhar Atoll and Madagascar. These channels divide the coral-reef areas into four sections, which may be termed respectively the Malagasy, Seychelles, Chagos, and Maldive." The Maldive and Laccadive Archipelagoes form a long, narrow belt, extending due north and south from the level of the Kanara coast of India in lat. 14° N. to Addu Atoll in lat. 0° 40′ S. Mr. Gardiner has exhaustively described these atolls, and has entered fully on the much disputed question of coral formations; in this discussion he has relied very largely on his own observations, and in perusing the statement of his views the reader will find a mass of original observations on the life-histories of many marine organisms.

A considerable number of naturalists have combined to work out the collection, and, as a rule, their contributions are of a more generally biological or philosophical character than bare enumerations of genera and species. We may instance Dr. MacMunn's paper "On the Pigments of certain Corals," in which a conclusion is arrived at that as the dark pigments when in solution have the property of arresting the ultra-violet and violet rays of light, they may probably act as a screen, protecting the delicate organisms from the irritating effects of the rays of short wave-length, and in this way be of considerable physiological importance. In Mr. Borradaile's contribution on "Marine Crustaceans," the reader will find some pregnant remarks on "Varieties and Species," in which conclusions are reached somewhat on the same plane as those promulgated at about the same time by Mr. Bateson. These communications must be taken as representing the main scope and method of other valuable memoirs by different writers, to which our space will not allow further reference to be made; and no reader or student will fail to be struck with the advanced biologic method that permeates the pages throughout.

Catalogue of the Noctuidæ in the Collection of the British Museum. By Sir George F. Hampson, Bart. Published by the Trustees of the British Museum.

This constitutes the fifth volume of the "Lepidoptera Phalænæ," and is devoted to the *Hadeninæ*, the second of the fifteen subfamilies of the *Noctuidæ*, and contains the descriptions of 946 species belonging to 78 genera.

Should the author complete this great publication—as we hope he will—the work of a lifetime will have been expended in the production of a classic in Lepidoptera. Only those who have engaged in similar labours can fully estimate what it involves to unravel the tangled synonymic skein of an immense and difficult family of moths such as the *Noctuidæ*, and at the same time to revise the genera throughout, especially when the generic revision is of a constructive and not a purely destructive character. The wholesale "lumping" of genera, as sometimes practised, frequently causes as much, if not more confusion than their occasional almost impractical subdivision; while, on the other hand, a "lumping" of many so-called species, and a stricter analysis in genera, frequently advances a more real appreciation of the composition of a difficult and involved group of animals, either high or low in evolution. We think that Sir George has been happy in his treatment of this problem in the present volume; in the old genus *Polia* he has included many species hitherto placed under *Mamestra*, and in other generic creations; whilst he has not hesitated to propose new generic divisions for other species belonging to the same extensive group. Even the British lepidopterist will find some change in generic nomenclature, and much guidance and considerable clearance has been effected with the Nearctic species. The author has generically revised some of his former work, as well as that of other entomologists, and we feel that it is almost as impossible for the entomologist as the pietist to reach perfection; at least we can aim at that ideal, and this book is a very advanced attempt at doing so. An atlas with eighteen coloured plates accompanies the volume.

Our Country's Animals, and how to know them. By W. J. Gordon. Simpkin, Marshall, Hamilton, Kent & Co., Lim.

We have already noticed several volumes of this series, and in the present issue Mr. Gordon has written on the Mammals, Reptiles, and Amphibians. The treatment is exactly that pursued by the author on previous occasions, and will doubtless prove useful to the many who desire to know the names of British animals, but do not possess other publications on the subject. The illustrations are to the point of recognition, if not artistic; but we are much struck with that representing the Otter, which depicts that animal having the audacity to not only seize a Perch, but also over its formidable dorsal fin!

EDITORIAL GLEANINGS.

Adolphe Boucard, a well-known naturalist and traveller, died on the 15th March, in his sixty-sixth year, at his residence at Hampstead. His name is principally connected with Central America, where he made more than one natural history expedition. His first journey appears to have been made in 1851, when he visited Mexico, Nicaragua, and California. His last expedition was undertaken in 1877, and was directed to Panama, Costa Rica, Nicaragua, and Guatemala. Ornithology and entomology were his favourite studies, especially the first, on which he published a number of memoirs. His 'Genera of Humming-birds' was published in 1895, and in Costa Rica he discovered a new genus and species of these birds—*Arinia boucardi*, Muls., only recently rediscovered by an American collector. A few years back he presented a fine collection of bird-skins—some twenty thousand specimens—to the Paris Museum, and a very large number of duplicates to an American museum. Of recent years he was less familiar to collectors, but formerly was a well-known dealer in London. He was the recipient of many honorary degrees, and was much respected. For the above particulars we are largely indebted to Mr. W. F. H. Rosenberg.

The Fourth International Ornithological Congress will be held in London under the presidency of Dr. R. Bowdler Sharpe, and will extend from June 12th to 17th. The Secretaries are Dr. Ernst J. O. Hartert, of Tring, and Mr. J. L. Bonhote, of Ditton Hall, Fen Ditton, Cambs. Unless otherwise stated, the meetings of the Congress will take place at the Imperial Institute, South Kensington. An excellent programme is arranged, and the Congress promises to prove a great success.

The following note by Mr. D. W. Prosser, extracted from the 'Fishing Gazette' of March 11th, is of some importance to those ornithologists who are studying Welsh birds:—

"On Jan. 7th a very interesting article appeared in the 'Fishing Gazette' on a 'Rare Bird shot in Berkshire,' called Y trochydd Mawr.

To those of your readers who do not understand Welsh it might be of interest to know that this 'ancient British name' is Welsh, and means 'the great diver'; the usual Welsh word used for 'diver' is 'trochwr,' the terminals of the masculine noun in Welsh may be 'ydd' or 'wr.' I might further state the verb 'dive' is in Welsh 'trochi'; the noun is formed by adding 'ydd' or 'wr' to the verb 'trochi,' omitting the final 'i.'

Zoological Idealism.—In a recent number of 'The Animal World,' Mr. J. M. A. Woods has discussed the question, "Have Animals a future Life?" Of course, by "animals" the author clearly implies animals other than man. He writes:—"A subject like this always finds opposers, because it contradicts the natural pride of man, which makes him anxious to think himself so completely first that none else can share his immortality"; and "We are apt to think of the word 'immortality' as comprising more than its simple meaning—deathlessness." A considerable number of theological and other writers are quoted, and we will confine ourselves to extracts from the last.

Max Müller, in his first series of 'Lectures on Language,' writes:—"It does not follow that the souls of men are not immortal because the souls of brutes are not immortal, nor has the *major premiss* ever been proved by any philosopher, namely, that the souls of brutes must necessarily be destroyed and annihilated by death. Leibnitz, who has defended the immortality of the human soul with stronger arguments than even Descartes, writes:—'I found at last how the souls of brutes and their sensations do not at all interfere with the immortality of human souls; on the contrary, nothing serves better to establish our natural immortality than to believe that all souls are imperishable.'"

Dr. John Brown, in 'Horæ Subsecivæ,' asks:—"Are not these dumb friends of ours persons rather than things? Is not their soul ampler, as Plato would say, than their body, and contains, rather than is contained? Is not what lives and wills in them, and is affectionate, as spiritual, as immaterial, as truly removed from mere flesh, blood, and bones, as that soul which is proper self of their master? And when we look each other in the face, as I look in Dick's, who is lying in his 'corney' by the fireside, and he in mine, is it not as much the dog within looking out from his eyes—the windows of his soul—as it is the man from mine?"

"Knowest thou not," says Milton, referring to the lower animals, "their knowledge and their ways? They also know and reason not contemptibly." And Aristotle: "There are between man and animals faculties in common, near and analogous." Locke gives it as his opinion: "It is as evident that some animals do in certain instances reason as that they have sense." Schleiden also says: "It is certain that most animals in their several acts show every outward sign of consciousness, or knowledge of the end of their actions, not like the first and uninformed operation of instinct, which is wholly employed in their self-preservation, or in providing for their young."

The author also quotes from Archbishop Trench, Butler, John Wesley, Andrew Baxter, and others; but, in saying "We find human beings (as the inhabitants of the Andaman Islands) actually below some animals in intelligence," he has evidently relied on some old account of these Mincopis, and has not consulted the details of recent anthropology.

THIS subject has also recently engaged the attention of Bishop Thornton, Assistant Bishop of Manchester, who has given his views in the course of an address on "Teachings from the Zoo," delivered at the monthly service for men at Blackburn Parish Church. At the request of a representative of the 'Daily Telegraph,' Dr. Thornton consented to express himself at greater length.

"Brutes," he urged, "have not souls in the popular theology, which speaks of the soul as the exclusive endowment of man; but Scripture uses the very same word for the 'living soul' of the brute as for that of man, reserving the word 'spirit' to denote the special endowment of mankind. The soul of man, by which he hopes and fears, rejoices and sorrows, loves and hates, seems shared by him with the lower animals. It is that in his immaterial nature which hangs suspended between the flesh and the spirit, capable of being dominated, as in brutes, by the animal propensities—capable of being linked up with what is spiritual, immortal, and divine. This soul and spirit are not only not identical, but may be in conflict with one another. The writer to the Hebrews speaks of the 'dividing of the soul and spirit, of the joints and marrow.' Yes, the lower animals have souls, and exhibit what may be called moral qualities. They display sympathy, generosity, courage, or cowardice; they evince pride, jealousy, vindictiveness; they manifest roguery, and what may be called conscientiousness. If there be future reward for brutes, some urge, there must be future punishment, which, for some reason, one feels it impossible to believe. Indeed, the individual brute life is not important enough to demand a future to redress its deficiencies. A horse has fulfilled adequately the aim and ideal of his being if he has served the convenience of man, ministered to his needs and innocent pleasures. That after death it should minister to the nourishment of his pack of hounds is, on the whole, no inappropriate, or even unworthy, conclusion of his career. As for the moral qualities discoverable in brutes, it is said they have been overrated. There is no touch in these with what is spiritual, divine, eternal. Conscience in brutes amounts to little or nothing more than a fear of punishment, or the hope of sensual gratification.

"Decision in such a controversy is by no means easy. The problem is akin to that of the probable future of idiots or humans who die in infancy. May there not be degrees in 'immortality,' or may reincarnation be true for the brute? May there not be a generic resurrection in which what is durable in the individual shall be perpetuated only in the mass? It is beyond us to find the answer to these questions. At all events, we cannot consent to infer the immortality of brutes from the absence of essential distinctions between their nature and our own. The line of demarcation may not seem easy to draw in regard to their mental and moral qualities; but may we not draw it at the border between soul and spirit?"

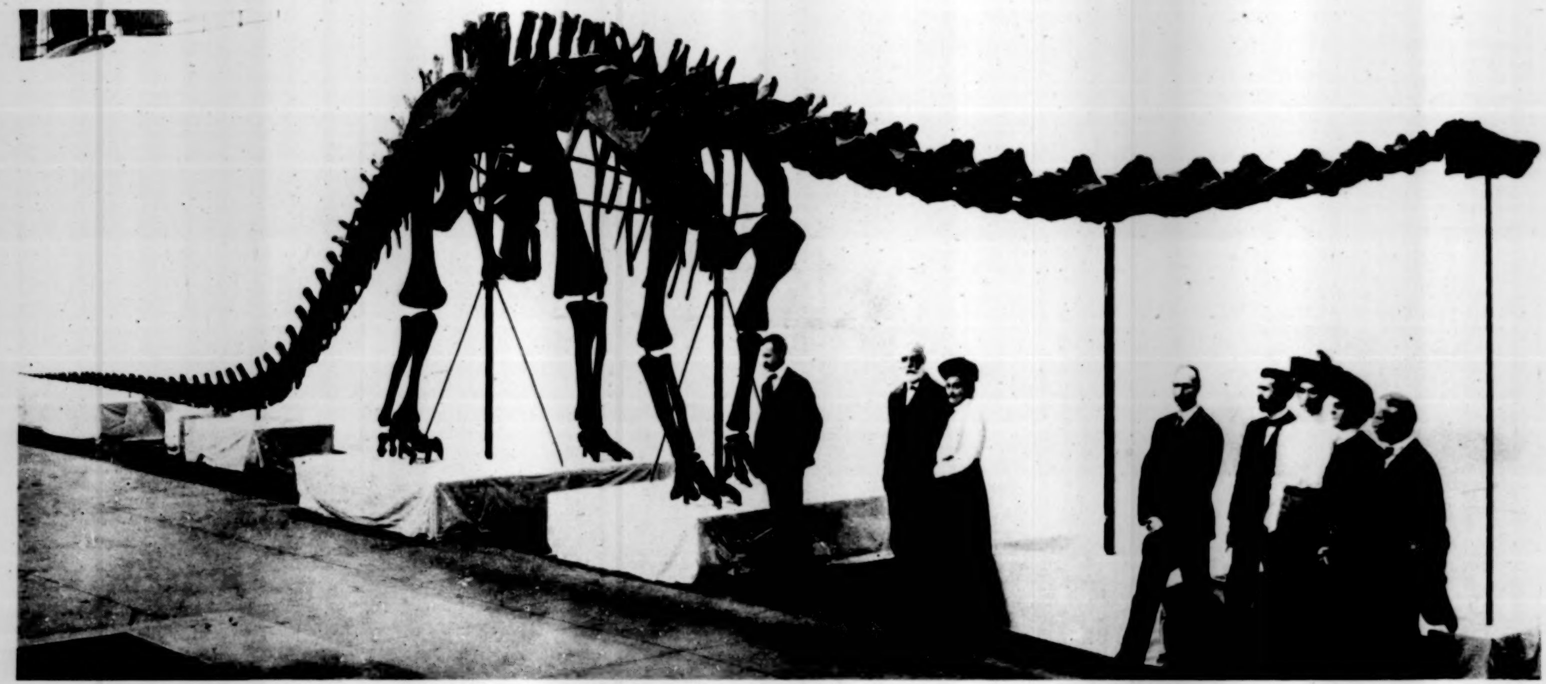
IT was stated at yesterday's meeting of the Yarmouth Harbour Commissioners that, though the Herring fleet represented a capital outlay of a quarter of a million sterling, exclusive of nets and gear that may be estimated at another £50,000, the boats' accounts for the past year did not show a return of much more than 1 per cent. upon the capital. Yet at Yarmouth last year there were landed no less than 40,599 lasts, or 535,378,800 Herrings, sufficient to provide every man, woman, and child in the United Kingdom with about a score of Herrings each.—*Evening Standard, March* 17*th*.

THE preservation of birds from a gardener's point of view is clearly expressed by a writer in 'The Garden' (April 8th), and may be read with interest by many who may disagree with the writer's conclusions. He considers that there is "little escape from the conclusion that the fewer Bullfinches we have in the country the better, and that people who kill seventy or eighty Bullfinches in a winter, as some gardeners do in the south-west, are justified in congratulating themselves upon the performance. The wonder is that there is not such a market for live Bullfinches as should make the shooting of them seem not only unnecessary but wasteful. The bird is very easily trapped, and makes an ideal cage bird. The general question of birds in gardens is full of difficulties, which will become more serious year by year as the birds multiply, in consequence of the humane attitude which the public has definitely adopted towards them. The mischief which the Sparrow does is always exasperating in spring; but the Greenfinch, who deliberately tears off the blooms from primroses which grow in shady shrubberies, as the Sparrow does from those that grow in the open, might be just as bad if he were equally numerous. The Hawfinch, who was an extremely rare bird thirty years ago, has become too familiar in many places as the arch destroyer of green peas. Crossbills, still regarded in most parts of the country as interesting rarities, are shot at sight in others on account of their absurdly wasteful trick of destroying apples in order to get at the pips.

"There are black marks even in the records of the most useful birds, and, when these multiply, the mischief which they do seems to increase by leaps and bounds out of all proportion to the mere growth of their numbers. In every corner of the country now you hear that the Rook, the "farmer's friend," has fallen into evil ways since he began to multiply; and even the Tits, whose general utility in a garden is undeniable, are anathematized by fruit-growers on account of their habit of spoiling quantities of fruit by pecking a hole in each near the stalk. For this damage the often-recommended device of putting pans of water near the trees, with the idea that it is thirst only which impels them to attack fruit, seems no preventive, and the only effective stratagem seems to be to enclose each fruit in a bag, or to protect it with a disc of paper round the stalk. But when one considers the average price which a grower obtains for his fruit, one realizes how heavily handicapped he would be if he had to adopt either of these devices against the Tits. The wholesale damage done by Starlings in cherry orchards, and the ravages of many kinds of birds among the bush-fruit and strawberries, are well known to everybody; but only observant gardeners are able to distinguish between the degrees of mischief properly attributable to the different kinds. When, for instance, you find that, as is often the case, boys are encouraged to destroy the nests of Blackbirds and Thrushes indiscriminately in order to protect the fruit, you have proof of ignorance. The Blackbird is undoubtedly more mischievous than useful in a garden during the summer, from the fruit-grower's point of view, but the reverse is the case with the Thrush. It is only in drought, when snails are hard to find, that the Thrush will raid the fruit; but, when fruit is ripening, the Blackbird will always leave the work of hunting for slugs and worms in order to feast upon it. Year in, year out, the more Thrushes you can have in a fruit or vegetable garden the better.—E. K. R."

BRITISH 19 MY 1905 MUSEUM

Plate III.



View of the Skeleton of *Diplodocus*. as set up preliminary to Shipment in the Hall of the Western Pennsylvania Exposition Society in Pittsburg, Pa.